

What Causes Desertification, and Why Should We Focus On Reversing It?

Similar to the importance of a growing global population on the world, desertification is an environmental issue which requires attention. In this image ^[1] you can see the amount of the Earth's surface which is covered in desert. As can be seen, a good portion, if not a majority of the Earth is covered by desert. Given the necessity of the flora for filtering CO₂ from our atmosphere, this is an alarmingly high percentage of unfertile land.

What is interesting is the similarity in effects between overpopulation and desertification. As opposed to humans felling trees and other necessary foliage, desertification provides an inhospitable environment for life-sustaining green coverage. ^[2] Instead of overpopulation leading to scarce per-capita food resources, increasing desert coverage again limits the amount of fertile soil which can be used for food production. ^[3] Perhaps less related but still having a similar effect, overpopulation leads to increased concrete/impermeable surface coverage and therefore increased flooding. While it may seem counterintuitive to suggest that flooding can occur in a desert, it has been shown that in many areas the desert terrain is incapable of soaking up the rain due to a thick layer of extremely hard topsoil. ^[4] In these instances these locales often experience sufficient rainfall to sustain vegetation, yet again the lack of water absorption results in decreased soil productivity, and therefore starvation.

One of the modern leaders focusing on reversing the effects of desertification is Allan Savory. He is an African native now living in the United States. He established the Savory Institute to educate farmers in livestock rotation, believing that "grassland actually benefits from heavy grazing by cattle, so long as the cattle soon move elsewhere." ^[5] He espouses an antithetical view, which contrary to the popularly held belief that the upper image ^[6] leads to the bottom, ^[7] suggests that the reverse is true. This may seem far-fetched, especially considering the years of conditioning and evidence that state otherwise. Mr. Savory presents one particularly compelling argument however. Savory argues cattle and other livestock "[cover] the soil as dung, urine and litter or mulch, [so] that soil is ready to absorb and hold the rain, to store carbon, and to break down methane." ^[8] More than offering believable reasoning for its effectiveness, Savory presents photographic proof similar to what is seen here. ^[9] The images on the left and right were taken on the same day, and were even photographed in locations very near one another. The one distinction to be made is that the photographs on the left show land which has not employed Savory's Holistic Resource Management (HRM) technique, whereas the contrasting images have been using Savory's HRM techniques for some time. As you can see this photographic evidence effectively supports Savory's hypothesis, showing that it is more than a reasonable claim. "There is only one option left to climatologists and scientists, and that is to do the unthinkable, and to use livestock, bunched and moving, as a proxy for former herds and predators, and mimic nature." ^[8]

Luckily it seems Savory's work is paying off. "Instead of having to ask people to come to HRM workshops, Mr. Savory finds they are coming of their own accord." ^[5] This is great news for anyone concerned with the effects of overpopulation and desertification. Although these are challenging environmental problems, through education and planned grazing of livestock we have the potential to reverse global hunger and the eradication of flora and fauna vital to our ecosystem.

References:

- [1] * <http://singularityhub.com/2013/05/02/allan-savory-to-reverse-desertification-solve-global-warming-feed-worlds-poor/>
- [2] * <http://www.corbisimages.com/stock-photo/royalty-free/CB068097/flower-growing-in-desert>
- [3] * http://www.radhikachalasani.com/#/sudan-famine/new_1000_famine02
- [4] * <https://www.flickr.com/photos/46357488@N00/1673250137/>
- [5] † "True Believers: Holistic Ranching." *The Economist*, December 21, 1991. Infotrac Newsstand.
- [6] * <http://www.kidsdiscover.com/spotlight/african-safari-for-kids/>
- [7] * <http://www.brentstirton.com/index.php#mi=2&pt=1&pi=10000&s=59&p=21&a=3&at=0>
- [8] † http://www.ted.com/talks/allan_savory_how_to_green_the_world_s_deserts_and_reverse_climate_change/transcript#t-747136
- [9] * http://www.savoryinstitute.com/media/40591/Savory_Institute_Carbon_RestoringClimateWhitRestor_April2013.pdf

* Indicates photographic reference (note some references have multiple photos per link. To discern which photo is being referenced, consult the PowerPoint slides: <http://sustainabilityproblems.wikispaces.com/Matrix+of+Factors>)

† Indicates informational reference